REMARKS

After entry of this Amendment, claims 1-15 are pending in the application. Claims 9-15 have been added. Claims 1 and 8 have been amended to more particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Reconsideration of the Application is respectfully requested in view of the amendments defined herein and the following remarks.

In the Office Action dated March 3, 2006, the Examiner has rejected claims 1-8 under 35 U.S.C. §103(a) as being unpatentable over Lightner et al in view of Rasmussen et al. The Examiner recognizes that the structure in Lightner does not specifically disclose drawing a carrier solvent into the syringe, but suggests that it would have been obvious to one of ordinary skill in the art to include in Lightner the step of drawing a carrier solvent into the syringe as taught by Rasmussen. The present application discloses an apparatus and method for automated liquid phase microextraction. The claims recite that the method includes controlling movement of a syringe in multiple axes, moving the syringe to a sample vial, and moving the syringe to an instrument injector. See claims 1 and 8. The process also includes the step of drawing a carrier solvent into the syringe to be used for collecting the sample in the syringe. See claims 1 and 8. The step of collecting the sample in the syringe can include the steps of activating a syringe plunger to expel and hold a microdrop of the solvent on the tip of the syringe; holding the microdrop on the tip of the syringe in the sample vial for a period of time to collect the sample in the space above the sample in the vial, and drawing the microdrop of solvent and the collected portion of the sample into the syringe. See claim 2.

The structure disclosed in Lightner discloses an automatic liquid sampler that provides three motions of the syringe. The three motions of the syringe are produced by three prime movers. Col. 6, ll. 62-68 and Fig. 10. The barrel prime mover 82 moves the syringe barrel 20 downward to insert the syringe needle 16 in the sample vial 142 or upward to remove the needle 16 from the sample vial 142. Col. 7, ll. 45-46 and ll. 53-55. The plunger prime mover 84 raises and depresses the plunger 22 on the syringe 18 to withdraw samples into the syringe 18 and release the samples from the syringe 18. Col. 7, ll. 48-51 and ll. 57-60. The pivot prime mover 112 pivots the barrel of the syringe 18 about a pivot point 94 to be in alignment with an injection port 10. Col. 6, l. 74- col. 7, l. 1. The structure also includes an indexing prime mover 150 which rotates a turntable 140 containing the sample

containers 142 under the syringe 18 and rotates the turntable 140 so that the sample containers 142 are at the sampling position of the syringe. Col. 5, ll. 54-68. Therefore, the syringe 18 disclosed in Lightner merely pivots in a 90° angle from the sample vial 142 on the turntable 140 to the injection port 10. The barrel 20 of the syringe 18 is raised and depressed relative to the position of the syringe 18, to position the needle for extracting a sample from a vial 142 or releasing a sample into the injector port 10. Fig. 10. However, the syringe is not moved to a sample vial. Rather the sample vials 142 are moved via the indexing prime mover 150 which rotates the turntable 140 of sample containers 142 into position under the syringe 18 location. Nor is the syringe moved to an instrument injector. Rather the syringe is merely pivoted by the pivot prime mover 112 to the injector port 10. See Fig. 10. Therefore the syringe is not moved in multiple axes from the sample vial to the instrument injector as recited in claims 1 and 8 of the present invention.

The structure disclosed in Rasmussen is relevant only for its disclosure of using a solvent. However, the Rasmussen reference also uses a fiber or other material as a carrier to immobilize a solvent. Page 4, ll. 35-36. The solvent is immobilized on the surface of the carrier material. The sample material is concentrated and fixed to the solvent and the carrier material. Page 4, ll. 14-25. In the process disclosed in Rasmussen, the fiber or other carrier is withdrawn in the needle. The needle is lowered into the solvent vial and the solvent is immobilized and fixed on the fiber carrier. The fiber is withdrawn into the needle before the needle is withdrawn from the solvent vial. The fiber carrier and the solvent combination are lowered into the sample and the fiber and solvent combination is withdrawn into the needle before the needle is removed from the sample vial. Page 7, ll. 24-37. The Rasmussen reference discloses a solid carrier, such as a fiber, having a liquid coating or solvent for extracting a chemical sample. The liquid phase microextraction process disclosed in the present invention draws a carrier solvent into the syringe. See claims 1 and 8. A microdrop of the solvent is expelled on the tip of the syringe to collect a sample. See claim 2. Rasmussen is devoid of using only a solvent to collect a sample as disclosed in claims 1-8. Therefore the combination of Lightner and Rasmussen does not disclosed the invention as recited in claims 1-8.

Additionally it is re-submitted that the method disclosed in Lightner is devoid of the steps of controlling movement of the syringe in multiple axes, moving the syringe to a sample vial, and moving the syringe to an instrument injector as set forth in claims 1 and 8.

Therefore, the addition of Rasmussen does not yield the invention as recited in claims 1-8. For the reasons set forth above, it is respectfully submitted that Lightner and Rasmussen, taken singly or in combination are devoid of the invention as defined in claims 1-8.

The Examiner points out that Lightner discloses that the invention can be detachable and adapted to mount to a gas chromatograph. Col. 3, ll. 41-45. However, the automated liquid sampler of Lightner is not directed to an automated step of liquid microextraction and there is no teaching in either Lightner or Rasmussen that the liquid phase microextraction can be automated. Automated samplers, like the one disclosed by Lightner, can perform multiple injections in gas chromatography or liquid chromatography of varying sample volumes and have been employed for the insertion of a syringe into a sample and extraction of the sample into the syringe, as disclosed in Lightner, but such automated samplers have not been able to perform automated liquid phase microextraction, requiring the microextraction steps to be performed manually. ¶[0007]. Therefore, one skilled in the art would not be motivated to implement a manual liquid microextraction process, as disclosed in Rasmussen, to an automated liquid sampler as disclosed in Lightner based simply on the two references cited. Reconsideration of the rejection is respectfully requested.

It is respectfully submitted that the Amendment traverses and overcomes all of the Examiner's objections and rejections to the application as originally filed. It is further submitted that this Amendment has antecedent basis in the application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the application as amended is respectfully requested. It is respectfully submitted that this Amendment places the application is suitable condition for allowance; notice of is requested.

If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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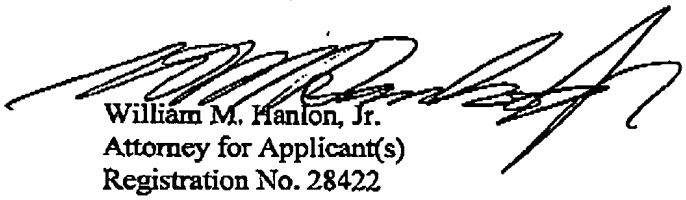

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